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ABSTRACT

A conceptual introduction for teachers explains economic growth and how it is measured. Four instructional units follow, beginning with a preschool and kindergarten unit which offers young students an opportunity to interview puppet workers, set up a classroom corner store, and learn the importance of capital resources for increasing productivity by watching adults work with hand and power tools. "Steps to a Growing Economy," the 1st and 2nd grade unit, helps students appreciate the relationship between good personal health and productivity, learn how putting resources back into a business increases profits, and investigate how inventions increase productivity. The 3rd and 4th grade unit has students make decisions about their own school productivity, graph their productivity growth, and investigate how early settlers and colonists improved their standard of living. "Global Growth," the unit for 5th and 6th grade students, engages students in a discussion of an article on how countries grow and asks students to research the growth potential of selected countries. (JDH)

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ECONOMIC GROWTH

THE ELEMENTARY ECONOMIST
VOLUME 7, NO. 3

BY

DR. JAMES B. O'NEILL
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MARLENE HODGDON
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1986

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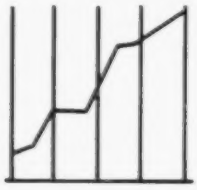
ECONOMIC GROWTH



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Announcements

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Economic Growth

by Dr. James B. O'Neill

Dr. O'Neill is Professor of Economics and Director of the Center for Economic Education at the University of Delaware. He directs a Masters of Instruction in Economic Education degree program which enables teachers to facilitate economic education at the local level.

WHAT IS ECONOMIC GROWTH?

The first step in understanding the meaning of economic growth is to consider the general meaning of *growth*. Growth in a generic context is simply an expansion. This expansion, when considered in the context of the economy, is an increase in the economy's ability to produce goods and services over time. When economic growth occurs people have either *more goods and services* available to them, or *more people* are able to exist at the same level of living.

Economic growth generally takes place when the quantity and quality of available resources increases over time. These resources include labor or human resources, natural and capital resources, the state of technology, and the ability to combine or manage productive resources. Since an individual's standard of living is related to their economy's ability to produce more and better goods and services, students should understand the factors that contribute to the future growth of the economy. Also, students themselves are potential productive resources, and their personal decisions can influence their own economy's potential.

HOW ECONOMIC GROWTH IS MEASURED

Since economic growth may have an impact on all members of an economy, it is important to measure it over time. The most common measure of a nation's economy is *gross national product* (GNP)—the value of the total goods and services produced in one year. For example, if an economy only produced ten bicycles and sold them at $200 each, the GNP figure would be 10 x $200 or $2,000. An economy's GNP provides a standard with which to monitor growth from year to year. However, inflation of the dollar can distort this measure. To compensate for this distortion, economists adjust each year's GNP and measure it against the value of the dollar in 1967—what economists call constant dollars. This adjustment gives us the real value of output or the *real GNP*.

Since *real GNP* is a measure of a nation's output, it is used to evaluate an economy's standard of living from one year to the next. It is also a means of comparing a country's level of living with that of other countries. Once again distortion is possible if changes in population are not considered. Although a country may have produced more goods and services than in the previous year, if they are to be distributed among a larger population, then, generally speaking, the people's level of living has not improved. Therefore, to derive a more accurate standard, economists divide *real GNP* by population, to get the *output per capita*. This figure is a measure of the amount of goods and services that the average citizen is able to consume in a year.

Over the past 150 years the United States economy has grown an average of 3% annually. Such growth, however, is not true of all countries. Some nations in Africa and Latin America have shown little or no economic growth. This lack of growth may be caused by a shortage of productive labor, capital equipment, available resources or by their level of technology. An understanding of economic growth allows us to explain past events and, more importantly, helps us develop policies that will maintain and encourage future growth.

Although there is no predictable formula to ensure economic growth, most economists agree that there are several key components. They include an increasing stock of capital, technological change and innovation, a greater investment in education and human resources, and an economy that encourages saving and investment.

INCREASED CAPITAL

An *increasing* stock of capital refers to those machines, tools, buildings, highways, dams, etc., used in increasing amounts relative to other productive resources, such as labor. These capital resources improve our ability to produce larger quantities and/or higher quality products and services in less time with lower relative costs. This is evident in the U.S. as our economy continues to change from manufacturing to services. Complicated machines are replacing workers in areas ranging from assembly lines to data processing. Labor productivity (output per worker) is enhanced through the increase of *capital* relative to labor. One worker today controlling large machines produces many more items, per work hour, than was possible in the past. On the negative side, increased capital may also displace workers. Therefore, an increasing stock of capital must be viewed positively, in terms of increased productivity, and negatively, in the context of displacing workers. The substitution of capital for labor is an ongoing process throughout the world and the U.S. economy must keep up if we expect to remain price competitive in the world economy. Obviously, this pattern imposes hardships on selected work groups which must be adequately addressed with other policies and programs.

TECHNOLOGICAL CHANGE AND INNOVATION

Invention and scientific discovery lead to technological change and innovation in production techniques. This kind of change may occur through technical evolution,

(continued on back page)

Productive Preschoolers

by Julie Mitchell

Julie Mitchell is a kindergarten teacher for the Jefferson County Public Schools in Louisville, Kentucky. She holds a Master's degree in early childhood education from the University of Louisville, and has been a recipient of a second place award in the Kentucky Council on Economic Education Awards Program.

Economic Growth

It is important for preschoolers to understand that they come to school so that teachers can help them learn certain skills (counting, adding, reading, writing, etc.) which they will need as they grow up. They should know that when they grow up these *same* skills will make it possible for them to work at certain jobs and to learn more.

Part of a child's early development and growth is to learn how to judge time, space, and the efficient use of materials. These skills will contribute to their academic output. Lessons that demonstrate the importance of personal and educational growth can be related to activities that teach children how productivity increases. This awareness helps preschoolers understand how stores in their community can bring more goods and services to people, and that this improves people's standard of living.

Student Goals

1. Appreciate the value of education as it contributes to personal and community growth.
2. Experience first hand that a new store in a community creates new jobs and stimulates business.
3. Understand that conservation of natural resources can lead to new resources and products.
4. Realize that improved tools and machinery are more efficient and that increased productivity leads to increased income.

Teaching Activities

I. A Puppet Teaches Economics

oral language skills • community awareness

This activity will teach the importance of learning basic skills (reading, writing, counting) by demonstrating how valuable members of the community need them to get, keep, and do a good job. (Basic education improves the quality of labor.)

Early childhood educators find that teaching certain concepts, such as economic ideas, is easier for children to grasp when associated with a puppet. Use a commercial or hand made puppet and give him/her a name related to economics. (Ours is called Samson, Our Wise Old Economics Friend). Prepare a box for your puppet which contains items, pictures, etc., relevant to the lesson.

In advance, prepare a paper firefighter's hat and a doctor's hat/stethoscope for your "economics" puppet. Place these items and pictures of different types of community workers in the puppet's box. Ask children to select pictures from the box and tell the class what type of worker they chose. Then place the firefighter's hat on your puppet, and have your puppet greet the children.

Start the lesson by having your puppet ask the children questions that will help them understand that a firefighter needs schooling and training to get and keep his/her job. The puppet asks: (1) Do you know what I do? (2) Do you know how I learned to fight fires? (First, I had to learn to *read* so I could find out how fires are put out, and how to save people. I started out in school just like you, then when I got big I had special training to see if I could be a firefighter. (3) Do you know what I had to learn? (How to handle axes, hoses, climb ladders, carry people to safety, etc.). I never could have been able to "pass the test" and become a good firefighter without learning how to read, write, and solve problems.

Now let the children ask the "firefighter" questions. Guide them to questions, such as: (1) Do you like your job? (sometimes dangerous, but needed) (2) Why do you work? (enjoy doing something helpful; need money for food, clothes, family) (3) Do you use any tools or equipment to help you do your job? (ladders, trucks, hydrants, hoses) (4) Could I be a firefighter? How? (Start with the learning of basic skills.)

The next day follow the same procedure but have your puppet wear a doctor's hat/stethoscope. Formulate questions to reinforce that education, equipment, and training helped the "doctor" get his/her job and to do it well; and, that the money he/she earns is used to buy those things he/she wants and needs.

II. Classroom Corner Store

language skills • art • construction • math

Converting unused classroom space into a grocery store can provide a hands-on experience that relates to the construction and operation of a business within the students' own community. Both activities bring about a need for new jobs and an increase in the number of goods made available to the consumer.

Ask the class if they've ever thought about what happens to their city/town when a new fast-food restaurant, supermarket, or store is constructed. After listening to all responses, tell the class that they are going to be given a chance to find out in their own classroom.

Call your local appliance store and request a couple of empty large appliance boxes. These will become the classroom grocery store. Send a note home to

PARENT CORNER: *Ask your child, "What did you learn in school today? What did you learn that someday will help you do a job?" Relate your early education to your present job.*

parents describing the project. Ask the students to bring to school empty cereal and soap boxes, juice, fruit and vegetable cans, etc. Check all cans for sharp edges and cover them with masking tape. Place the boxes on the "building" site and ask the class if the boxes, as they are, look like a corner grocery store. Suggest that they hire some builders and decorators to construct and design their store. Explain that they have just created a need for new jobs. "Employees" must also be hired to organize and set up the market. Involve as many children as possible in the planning, construction, and decorating. Ask a child to bring in a play/cash register (or make one) and play money.

When the store is ready have a "grand opening" party. Afterwards ask the children how they are going to get *their* goods—juices, cereals, etc.—to the people who want to buy them—the students (consumers). Guide them to see the need for new employees who will manage and operate the store, stock new products, and sell goods. Rotate newly hired "employees" so everyone gets the chance to play "producer" and "consumer." Prepare a price list to give children the opportunity to count money and items.

Explain to the class that their new store created new jobs for them and it got them to buy the items for sale. Relate this to the construction and operation of real stores/restaurants in their vicinity. Ask the class if they ever go with their parents to do errands. Have they noticed that when people shop/dine at one store/restaurant, they often go to other stores (dry cleaners, drugstores) in the area. That's how *new* stores help other stores earn money. Ask the store employees what they would do with the money they earned from working, if it were real.

III. Jack-O-Lantern Seeds

science • nutrition • concept building

Conservation of natural resources often leads to economic growth. Many times one natural resource may be used to create a new resource or product. To illustrate this concept to young children use the pumpkin seeds from a carved jack-o-lantern. Some of the seeds may be roasted as a healthy snack food and the rest saved until spring. As a class activity in the spring, have each child plant one or two seeds in a cut-down milk carton. Children will see their seeds grow into a new plant. Point out that the seeds they planted came from the jack-o-lantern they made in the fall; and that the seeds had been a snack food. Ask the children what kind of food will grow from the seeds. Explain that they have used a natural resource (the seeds) that might have been thrown away to produce *more* pumpkins. Ask them what *new* products they might make from their pumpkins. (Suggest pumpkin bread, pie, etc., and that these items could be baked and sold at a fair.)

IV. Manual vs. Power Tools

language • science • observation • reasoning

This activity demonstrates to young people that improved capital resources (tools, machinery, equipment, etc.) increases productivity and economic growth. Pre-arrange for two adults to assist in the demonstration. Use your "economics" puppet to introduce the lesson. Have a small stick of wood in the puppet's box. Ask a student to hand it to your puppet. In a comical manner, have your puppet attempt to saw the stick of wood in half using his/her finger. When the children realize what the puppet is doing, ask (using *your* puppet's name): What is Samson doing? (trying to cut off a piece of wood). Why is Samson having a hard time? Can they think of a better way? Explain that there are two people here to help Samson. Hand each person a one inch thick, three foot long strip of wood. Give one adult a manual saw and the other an electric saw. Explain that you want them to help Samson by cutting short pieces of wood for him. Ask them to cut off as many pieces as they can in five minutes. Before the experiment begins encourage the children to guess as to which saw (worker) will cut more pieces. After the experiment ask the children to state what they observed and what was accomplished. Ask them which saw they would use if they were carpenters building a house. Explain that people often choose to use motorized tools to save time and get the job done faster. This means a carpenter could make more cabinets, shelves, houses, etc., in less time and earn more money than if he only had a hand saw. Ask the students to think of other electric appliances they have at home that are more efficient than the manual method. (Examples are hairdryer, vacuum cleaner, electric mixer, etc.).

Steps to a Growing Economy

by Marlene Hodgdon

Marlene Hodgdon teaches kindergarten at Hewitt-Texas School in Wausau, Wisconsin. She has developed an early education economics unit which she presented at a workshop at Lakeland College in 1983. Her teaching ideas have received national recognition in The Elementary Economist *and in* Economics in Education.

Economic Growth

Young children learn very early that it takes money to buy the things we want. They may not like to hear, "No, we don't have enough money." or "We can't afford it." Children may come to appreciate the labor and resources involved in their parents' efforts to bring more "goods" to their household, through an understanding of all that's involved in a farmer's efforts to bring more goods to his consumers. Primary school children are aware that there are certain things they must do to have a healthy, growing body; this understanding can help them learn that there are also factors that contribute to a healthy, growing world.

Student Goals

1. Understand that there are factors that contribute to the growth of our world, as there are factors that contribute to the growth of our bodies.
2. Understand that using new natural resources, better tools and equipment, and trained workers can contribute to the growth of a business.
3. Understand that when economic growth occurs there are more goods and services for people to consume.

Teaching Activities

I. Healthy Me—Healthy Economy

nutrition • visual skills • concept building

This activity combines nutrition and social studies concepts. It demonstrates the analogy between the growth of a healthy body and a healthy world (economically).

Ask the children why their bodies grow. After they respond, discuss good food, exercise/play, and rest, as important ingredients for producing a healthy, growing body. Ask the children to give examples of their efforts to help their bodies grow.

On a felt/bulletin board, display a picture of a boy's or girl's body. Ask children to come to the board and place the three components (using words or pictures) of good health next to the figure. Say to the class, "Now we know how our bodies grow healthy and strong." Now point to a picture on the board of the world, and ask the class, "What do you think will help the world grow and become healthy and strong? Should we give food and exercise to the world? Do people in towns/cities throughout the world need these things? (Yes.) Do they also need clothing and places to live?

good food

exercise/play

rest/sleep

natural resources

machines/equipment

training/jobs

goods & services

How can people get these things? Give the children an opportunity to come up with ideas. Guide them to the realization that we must find and use *natural resources* to grow crops (food), plant trees needed to build houses (places to rest), find oil and gas (to heat homes), etc.. Ask the class, "How can people buy these things that they need?" (People must be educated and *trained* so they can get *jobs* in order to earn money to buy food, houses, clothing, etc.. When we have clothes, rest, and food, then we are able to play and exercise.) Training and educating people for jobs is improving human resources.

Ask the children if their parents use any types of *machines* (typewriters, welders, etc.), *tools* (saw, wrench), or *special equipment* (computers, stethoscope, trucks) that help them to do their jobs. After the children respond, explain that these things help people be more productive (they do a better job in less time). They are called *capital resources*.

Ask students to place the pictures/words of each of the factors (natural resources, better machines/equipment, trained workers/jobs) that contribute to a healthy world next to the picture of the world. Explain to the class that, "Now we know that if we use our natural resources well, build machines/equipment to help people do their jobs, and train people to work, we will help create a healthy world." Ask the children what their parents do with the money they earn from their jobs. (They buy the goods [food, clothing] and services [doctor, plumber] that we need. When more people have the things they need, we are helping to make a healthy world.) Place the words/pictures that represent "*More goods and services for people,*" next to the world.

PARENT CORNER: *As you and your child drive past a vacant lot, ask your child to imagine how the lot might be used, then ask how this change might affect the neighborhood.*

II. The Farmer and the Apple Orchard

sequencing • visual skills • language arts

This activity takes children through a sequence of events that shows how a farmer may begin with one or two apple trees, then by selling his apples, he earns money and buys better equipment and more trees. The farmer eventually produces more products for people to buy. Children add the objects that contribute to the farmer's economic growth onto a board (flannel/bulletin).

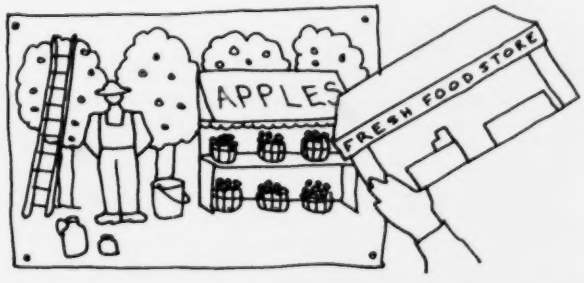
Introduce this activity by displaying a farmer on a flannel board. Next to the farmer, place several apple trees. Ask the children to describe what they see. Now ask, "If this farmer wanted to pick some apples for his family, how could he carry them?" The children can only use information from what is displayed. (The farmer could carry them in his pockets or hands, perhaps dropping a few during each trip.

Explain that the farmer keeps some apples for his family, but has some extra so he gives them to a neighbor. The neighbor is grateful and gives the farmer a bucket to use for picking and carrying his apples. (Have a student add a picture of the bucket.) Now the farmer can carry *many* more apples in less time, so he decides to sell some apples at a fruit stand near the road. (. . . add fruit stand.)

He is able to sell many apples at the stand and is earning a lot of money. He earns enough money to buy a ladder and a basket. Now he can reach and carry more apples. He also buys a few more trees so he can grow more apples. (. . . add ladder, basket, several trees.)

The farmer now thinks of something new to sell at his stand. Since some apples get bruised when they fall from the tree, he decides to use them to make apple cider and applesauce. (. . . add cider bottle and jar near the stand.)

Business is going *so* well, that the farmer needs more help. So he hires someone to work at the stand, and trains two pickers to help care for the trees. (. . . add three workers.) The farmer has many customers and the stand is much too small (. . . add few customers.), so he decides to use the money he 's saved and build a grocery store. He asks other farmers in his area to bring their fruits, vegetables and milk to be sold at the store. (. . . store; remove stand; add new products.) Now the farmer is managing a busy, fresh food store. (Point out how the board has changed from the beginning and how it's now overflowing with items to be sold, workers, customers, etc.)



Discussion Questions:

1. What natural resources did the farmer use to produce apples? (apple tree, soil, water, sun)
2. What tools or equipment did he use to help him produce more apples? (shovel, bucket, ladder) What did he build? (stand, store)
3. When he had more work than he could handle himself, what did he do? (hired and trained workers)
4. What new products did the farmer bring to his customers? (cider, apple sauce, farmers' goods)
5. What did the farmer do with the money he earned? (He saved it, then invested it in his business to improve it and help it grow.)

III. Long Ago vs. Today

identification • matching • creative dramatics

Through the creative ideas of people, work has been made easier by inventions. Children can compare how tools, machines and inventions have improved from those of long ago, and become aware of economic growth through technology.

Using the items listed, duplicate each activity on 3x5 cards (pictures may be drawn or cut out to facilitate reading). Keep "Long Ago" cards in one pile, and "Today" cards in another. This activity can be done several different ways:

A. As a *creative dramatics lesson*, have children divide up into two groups. One group has the Long Ago cards—labeled "L"; the other group has the Today cards—labeled "T". One child from group "L" stands up and acts out his/her activity. Another child from group "T" tries to guess which activity can take the place of the (long ago) activity being demonstrated. Then that activity is acted out.

B. To create a *concentration or memory game*, place cards face down on a game board. One Long Ago card is a match to one Today card. (This activity works best when played with small groups of six or less.)

C. Two or more children may use the cards as a matching activity and create a *card game*. Have a child deal out all cards equally. Each child matches his pairs and then proceeds to draw one card at a time from his opponent. The child with the most pairs at the end of the game is the winner.

LONG AGO CARDS	TODAY CARDS
1. Cutting down trees with an ax.	1. Using an electric chain saw.
2. Carrying water in buckets.	2. Using water faucet.
3. Sweeping rug with a broom.	3. Using vacuum cleaner.
4. Washing clothes in tub.	4. Using washing machine.
5. Stirring cake with spoon.	5. Using electric mixer.
6. Hauling food with horse/wagon.	6. Using a truck.
7. Milking one cow by hand.	7. Using a milk machine on several cows.
8. Heating home with fireplace.	8. Turning on a furnace/heater.
9. Plowing field with a horse.	9. Using a tractor.
10. Toasting bread with fire.	10. Using a toaster.

Everyday Growth

by Robert C. Littlefield

Robert C. Littlefield is the author of The Children's Economy *program. He teaches in the public schools of Andover, Massachusetts, and at Lesley College. He is also Program Chairman of the Economic Education Council of Massachusetts.*

Economic Growth

With a bit of creative restructuring, the classroom can become a veritable laboratory for the study of economic growth. By measuring the time spent on various classroom activities, students will be able to quantify an important aspect of economic growth—that of improved quality of labor. By improving study habits and increasing their effort in school, students are rewarded by receiving the benefits of more recreational school activity time.

Students should be given numerous opportunities to extend their thinking on economic growth beyond the school environment— to their families, their community, and even to an appreciation of economic growth in an historical setting.

Student Goals

1. Experience the relationship between increased productivity and economic growth.
2. Demonstrate how improved quality of labor (study habits) improves the quality and quantity of work produced (academic results).
3. Measure and graph class productivity in academic activities.
4. Understand the concept of growth in an historical community setting.

Teaching Activities

I. School Wishes

discussion • puzzle solving • concept building

Ask students to consider the experiences and activities they like most during a school day. They might suggest such things as recess, gym, pizza lunches, etc. Then invite them to include activities they like most during the whole school year (field trips, sports days, etc.). Using these ideas, ask the students to create a list of all the "best things" that could happen during the remainder of the school year. (Encourage them to list probable events—things that have a reasonable chance of really happening.) Motivate students by telling them you plan to help them find ways to make at least some of their wishes come true.

Ask students to share their lists with the whole class. In an open class discussion period, compose a final list of eight to ten activities that the class agrees they would like to have happen. Using these ten activities, prepare a word search puzzle for the students to solve. Instruct students to circle (or color) as many of the words on the wish list they can find.

A. After students have completed their word search puzzles, ask the class how they think they could possibly justify spending time on *these* extra activities when their days are already full with their present class schedule. Discuss ways that they might become more productive in their school work, so that there would be more time available for other activities. List their responses on the board. Discuss ideas such as, studying better for tests, concentrating in class, completing assignments correctly and on time, doing homework in a quiet place, etc., as examples of ways they could learn more efficiently or productively. (Improving the quality of labor—their academic effort.)

B. Introduce the concept of economic growth. Explain that one of the factors that helps businesses grow strong financially (economically) is the development of well-educated, well-trained, high quality workers. Site an example of how improved labor helps a business succeed; or use the following: "In some businesses and factories the managers give the workers a quota (a certain number) of items (such as radios, dresses, etc.), that they want completed or sold by the end of a week/month. If workers go beyond their quota, they may be given a bonus, extra time off, or vacation pay. This benefits the *workers* who have been more efficient, and it benefits the *business* because they have produced more goods to sell. Bringing more money or income to a business helps it grow." Relate this to the bonuses or benefits the class will receive if *they* become more productive.

II. Graphing Growth

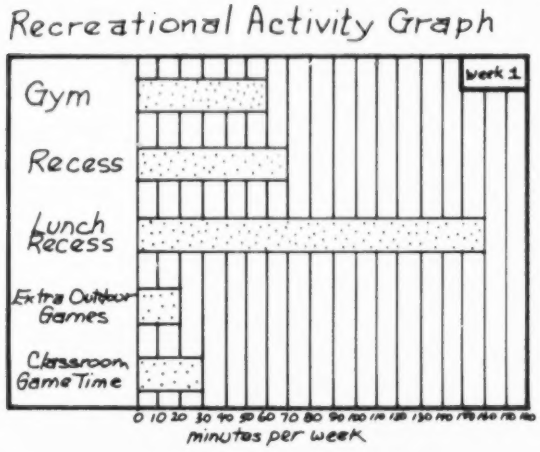
mathematics • measuring • graphing

A. This activity will help students measure the amount of time they *presently* spend on recreational or "fun" activities during the school day. As a group, calculate the number of minutes *per week* that they presently spend on non-academic or recreational school activities (such as, gym, recess, lunch recess, extra indoor game time, extra outdoor game time). List the activities and the number of minutes, per week, spent on each. Hand out a graph form and ask students to list the activities (in order, as listed on the board), then color in the bar graph to indicate the number of minutes per week spent on each activity. (See sample.)

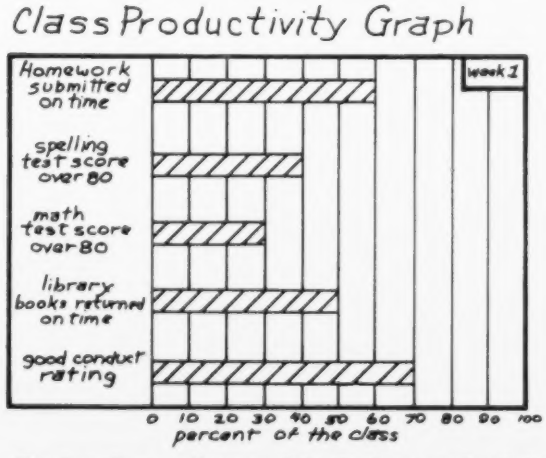
B. Ask the class how they know when they are trying hard or performing well in school (besides report cards). Responses might be: completing math/language arts assignments accurately, completing assignments on time, spelling test scores, math unit test scores, turning in library books on time, not needing any discipli-

PARENT CORNER: *Ask your child to name as many activities as possible—in and around the house—that have been made easier or more enjoyable because of machinery or technology.*

nary correction in school or in the playground. Explain to the class that they will use this information as a means of measuring their school progress or productivity. (See example given.) At the end of each week, at a designated time, the class will calculate and graph their progress. The progress or productivity of the class should be graphed for four-five weeks, preferably.


Recreational Activity Graph
week 1
Gym
Recess
Lunch Recess
Extra Outdoor Games
Classroom Game Time
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200
minutes per week

C. Prepare a system to reward the class in a very specific way for increased productivity in each area. For example, two weeks of perfect homework returns = one extra recess; or a 5% increase in the class' weekly spelling test score = one extra softball game. Explain to the class that their increased productivity is going to reward them with more time for special recreational events. Label the list of rewards, "Productivity Brings Rewards" and post it on the board.


Class Productivity Graph
week 1
Homework submitted on time
spelling test score over 80
math test score over 80
library books returned on time
good conduct rating
0 10 20 30 40 50 60 70 80 90 100
percent of the class

For four-five weeks, graph both class productivity and the growth of special events for the class. Discuss ways students can help each other become more productive and responsible.

D. At the end of the four-five week period, relate the above activity to economic growth. Ask the students how they became better students, or why they became more productive in their class and home work. Ask them if they made better use of their own natural resources (time, intelligence, skills), and if they used other resources better (books, pencils, pens). Explain that because they improved the quality of their work, they received bonuses in the form of more recreational time, and higher quality work, or both.

III. Colonies Grow and Prosper

social studies • sequencing • concept building

A social studies unit on the American colonists or on the early settlers may be easily adapted to incorporate material which teaches children what the settlers/colonists had to do to improve their standard of living. (They produced crops/goods to sell, which created income that was used to buy better tools/equipment, which increased their productivity, enabling them to buy more goods.)

Prepare three map-like pictures that show the same area of land in three stages of growth: (1) color a picture of forests and barren fields with some paths; in scene (2) show cleared land, planted farmland, small farmhouses, some woodlands and roads; in picture (3) show larger farms/farmhouses, horse plows/carts with oxen, roads, less woodland, and a marketplace (cluster of buildings) in the center.

Explain to the class that these pictures are of the same place (Use a ficticious name). Ask them if it *is* the same place, then why don't the pictures *look* the same. Children should realize that the place changed as people moved in, farmed the land, and produced those goods they needed to make their lives easier. Ask the class to point to the places on pictures 2 and 3 where things have changed. Explain that this is how the settlers/colonists started in America and became more productive (produced more goods).

Incorporate the following information into your unit of study that shows how the colonies grew economically:

- settlers arrived and cleared the land, cutting down trees for building
- they had an agricultural community, planting crops they needed for survival
- as they cleared more land, they were able to grow more crops and sell more wood
- the more crops they grew, the more they were able to sell (tobacco, grain) to the English for money
- with the money they earned, they bought *better* tools and other goods they wanted; they built wagons, better houses, etc.
- with the improved tools, plows, equipment, etc., they became *more* efficient (productive) and they bought goods they wanted for their own comfort (glass for windows, cloth, needles).

Ask the class to think about those *natural resources* (land, crops, trees), and *capital resources* (tools, plows, saws) that the colonists used to help them survive and grow. They used these resources to produce goods, so their community could grow and so they could make a better life for themselves. Discovering natural resources and improving capital resources are factors that bring economic growth. Explain to the class that change and growth in communities still goes on today.

Teaching Activities 5-6

Global Growth

by Gail Skroback Hennessey

Gail Skroback Hennessey teaches sixth grade in Harpursville, New York. A free lance writer, Gail's first book, Discovering Economics, Consumer Ed. for Kids, *was published in 1981 by DOK Publishers. She has written articles for* Instructor Magazine *and* American Teacher *and her next book,* Crafty Peoples Throughout History, *will be published in the fall.*

Economic Growth

Economic Growth is a valuable concept for students in grades five and six to understand. They are at an age where they realize that choices they make can affect the outcome of a given situation. For example, the choice to work and study hard at school may result in a student's personal growth and add to the system's future economic growth; or the choice to start a paper route may add to economic growth, but hinder academic or social growth.

In social studies as students learn about the nations of the world, they should be aware that a country's resources and how they are used affect its ability to grow and succeed. Similarly, the decisions and attitudes of people toward trade and education affect a country's potential. These activities demonstrate that economics is definetly NOT an isolated subject, but one in which important skills of decisionmaking, reasoning, and value clarification overlap with other disciplines and subject areas.

Student Goals

1. Understand that economic growth is based on four basic factors: natural resources, labor force, capital resources and technology.
2. Analyze a country and identify characteristics that affects its economic growth potential.
3. Analyze actual situations which encourage and hinder economic growth.
4. Evaluate the impact that choices have on economic growth.

Teaching Activities

I. How Countries Grow

concluding from data • reasoning • discussion

After silently reading the article, "How Countries Grow," students will discuss the many factors that influence the economic growth of a country. Begin the lesson by asking, "What do you think has helped the U.S.A. become such a wealthy, important nation?" Stimulate students' thinking by mentioning the size and population of the country, and ask how these factors might help. Guide students to realize that a country's land, natural resources, human resources or work force, its industries, and the products and services it produces, all help it become financially strong or economically successful. List the student's ideas on the board. Pass out a photocopy of the following article for students to read silently.

How Countries Grow

Whether or not a country becomes successful economically, depends on many different things. There are four basic factors which help to make a country grow. These four factors are the natural resources of a country, the labor force, the capital equipment (machinery, tools, buildings, etc.), and the technology of a country.

Japan is an example of a country which has few natural resources, yet it's a wealthy, strong country. Japan has no coal, oil or precious metals to sell, and there is very little fertile land for growing crops to sell. Japan does have trees that can be used in building. It also has fish and many streams that flow down the mountains. The Japanese use this water to create hydroelectric power. What Japan must do is import raw materials from other countries. Then with their large population of skilled labor and their advanced technology, they produce products (such as cars, stereos, TVs, bicycles). They sell these products to earn money, so they can buy more raw materials to continue the process! Thus, Japan has two of the four factors—labor and technology—which are used to create a successful economy.

Saudi Arabia is an example of a country that has very few natural resources. Life was very difficult for Saudi Arabia until one natural resource—oil—was discovered. Lacking a skilled labor force and the technology, the people turned to other countries to send their technology and labor force to create a profitable oil industry. The income Saudi Arabia receives from the sale of oil throughout the world, enables the country to purchase all of the other resources it needs. That's how they create a successful economy.

There are several other things which can affect a country's economic growth. The geography, the climate, the attitudes of a group or people and the government can all help or hurt the economic growth of a country.

A country that does not believe in public education will limit its skilled labor force to those who can afford to pay for an education. This attitude hurts the economic growth of a country by limiting the number of people capable of working and contributing to their country. A government of a country can help or hurt the economic growth of a country by creating jobs, passing trade laws and offering money to different people and businesses.

PARENT CORNER: *At the gas station, mention the drop in oil prices. Discuss how this affects your family, and what positive and negative effects it will have on the U.S. and other countries.*

Discussion Questions:

1. Give examples of how climate can influence the potential for economic growth. (Example—no snow: no skiers; ski slope operators lose money; may lay off workers; don't make enough money to repair or buy new equipment, etc.)

2. What effects would a severe frost on Florida orange groves have on Florida? (Loss of crop to sell; loss of income; juice becomes scarce; prices rise and consumers buy less.) Over a long period of time how might a big drop in production affect a country's growth? (Less goods produced, producers lose income; workers lose jobs; people buy less goods.)

3. Look at the Philippines and Japan. Since WWII, the USA has helped both countries; yet, Japan is clearly economically ahead of the Philippines. What factors may have hurt growth in the Philippines? (governmental problems; lack of educational and job opportunities)

II. Analyzing a Country's Capabilities

reference skills • comparing • analyzing data

Now that students have been introduced to the economic factors which can affect a country's potential, this activity will enhance the concepts studied thus far and lead to group and class discussion.

Divide the class into groups of 3-4 students. Using an economic map (found in their textbook or provided) select and assign a country in Africa, Southeast Asia, or Asia for each group to research. Explain to the class that each group will use reference books to collect data on each country. This data will help them form conclusions regarding the country's ability to grow economically. Hand out the following outline as a guide in collecting information.

Investigating a Country's Capabilities

Using the following checklist, utilize an encyclopedia, almanac, textbook, library book and/or atlas and answer or complete the following:

Natural Resources _____

Major Industries _____

Population _____

Literacy Rate _____

Education system. Circle answer.
Private/Public *Compulsory/Non compulsory*

Government _____

Climate _____

Geography _____

Technology _____

Determine the advantages and disadvantages of the country investigated.

During the next class, discuss the data each group collected and make comparisons. Have each group present information as "leaders" of their country visiting the USA. (Students may wear the style of dress of the country they represent.) Based on the information presented, discuss each country's economic potential. What would they suggest that would help the country's ability to grow.

III. Economic Chains

reasoning • current events • geography

Students should realize that in many daily events, decisions and policies are made which affect the way people live. No decision is without some type of effect or cost. The following activity uses two situations in the news which will enable students to analyze a positive and a negative economic chain of events.

A. Outside of Paris, France, plans are being drawn for a Walt Disney World. Some people are unhappy about this. They feel such a place will destroy beautiful scenery, take important farmland and cause harm to the eco-system (the life in the fields). Others see Walt Disney World as a great way to help France's economy grow.

Starting with the idea of a Walt Disney World, try and list 10-20 ways that such a place could increase the economic growth of France; then list negative consequences.

B. In a town in New Jersey called Freehold, the 3M Company plans to shut down. Many cities have similar problems. Businesses that don't make enough sales, are forced to shut down or move away. How might the closing of a business in a town, such as a tool and die company, affect a beauty salon or a restaurant? How might this situation affect the ability of a town to grow or decline economically?

For the teacher:

The following are examples of responses students might give to the questions above. After answers are discussed, chart the effects of each situation, side by side, under the headings, Town A and Town B.

Town A - Paris, France:

Tourists bring money
Tourists need places to stay; Hotels/Motels built
Construction/Hotel jobs needed
Restaurants needed/built
Food Suppliers/Workers needed
New Machinery/Equipment needed
Job Training provided for workers
New Technology to area
More money to local businesses
Businesses pay more taxes to town

Destroys scenery, open spaces
Reduces farmland/crops
Farmers must relocate
Farmers lose money

Town B - Freehold, NJ:

People in company lose jobs
People can't afford luxuries
Restaurants/Beauty Salons lose money
These businesses lay off workers
People buy fewer goods/services
Other businesses lose money/close down
Businesses pay less tax money to town
Town may decrease services or raise taxes

New industries may come to town
New jobs available

such as the steam locomotive being replaced by the diesel, and the propeller-driven plane being replaced by the jet. Technological change has also occurred in education. The electronic pocket calculator has made the slide rule of yesterday obsolete. The computer has greatly improved levels of accuracy and production in countless fields of work. In entertainment, laser technology has improved the quality of audio and video sound. These and other technological advances stimulate the level and rate of production derived from fixed resources. This improvement in the quality and rate of output, in turn, stimulates economic growth.

EDUCATION OR INVESTMENT IN HUMAN CAPITAL

The level and quality of education is vital to economic growth. Society must not only invest in machines, it must also invest in its human resources—in education at all levels, and in job training throughout a worker's productive life. A skilled and educated labor pool is a necessary ingredient for future economic growth. Improving peoples' ability to think, read, calculate and solve problems increases their proficiency and efficiency. Students must realize the vital role they play in the economic growth formula, and the opportunity they have as individuals to make a difference.

SAVING AND INVESTMENT

Savings is a necessary ingredient for economic growth. In the U.S. economy, an individual's savings may be used for investment purposes. Even young children who decide to save money at a bank are influencing possible investment that may lead to growth. Financial institutions may make a child's savings available to a local company that is buying a new printing press, truck, or computer.

Investment expenditures by businessowners and stockholders create new capital goods, which replace worn out and obsolete equipment. This increases the productive base of our economy. Savings and investment are both crucial to future capital formation and technological change.

RECENT PROBLEMS WITH ECONOMIC GROWTH

Analysts were troubled by the slow down of economic growth in the 1970s and early 1980s. They attributed this limited growth to the following:

(1) The acceleration of inflation during the 1970s.
(2) The oil price shocks of 1973 and 1979.
(3) Decrease in investment spending on new plant and equipment from 1973-1982.
(4) Decline in research and development expenditures which provide the seeds for technological change. Measured as a percent of GNP, spending in this area reached a peak in 1964 of three percent and by 1977 had dropped to 2.2 percent of the GNP.
(5) Some economists believe excessive government regulation hindered productivity and growth. To meet the increasing number of antipollution, health and safety regulations, funds were diverted from the purchase of more productive machinery and used for the purpose of making a safer workplace and a cleaner environment.

Better policies for promoting economic growth should evolve as economic growth becomes more widely understood.

SUMMARY

In a competitive world economy, students should have a general understanding of the factors associated with economic growth. No one is immune from its effects. There is no simple formula to increase economic growth. However, there are several key ingredients that contribute to a successful, growth-oriented economy. The community can be an excellent laboratory to begin to examine the factors associated with changes in growth, e.g., a new high technology business, the available labor pool or improved educational resources. Proper understanding of economic growth and its related principles will help clarify the role all responsible citizens play in our market economy.

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